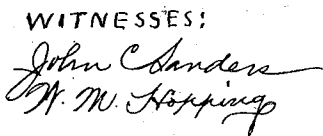


MECHANISM FOR PRODUCING GAS LIGHTED FLASH SIGNS AND THE LIKE FOR ADVERTISING PURPOSES.

Patented Nov. 21, 1911.

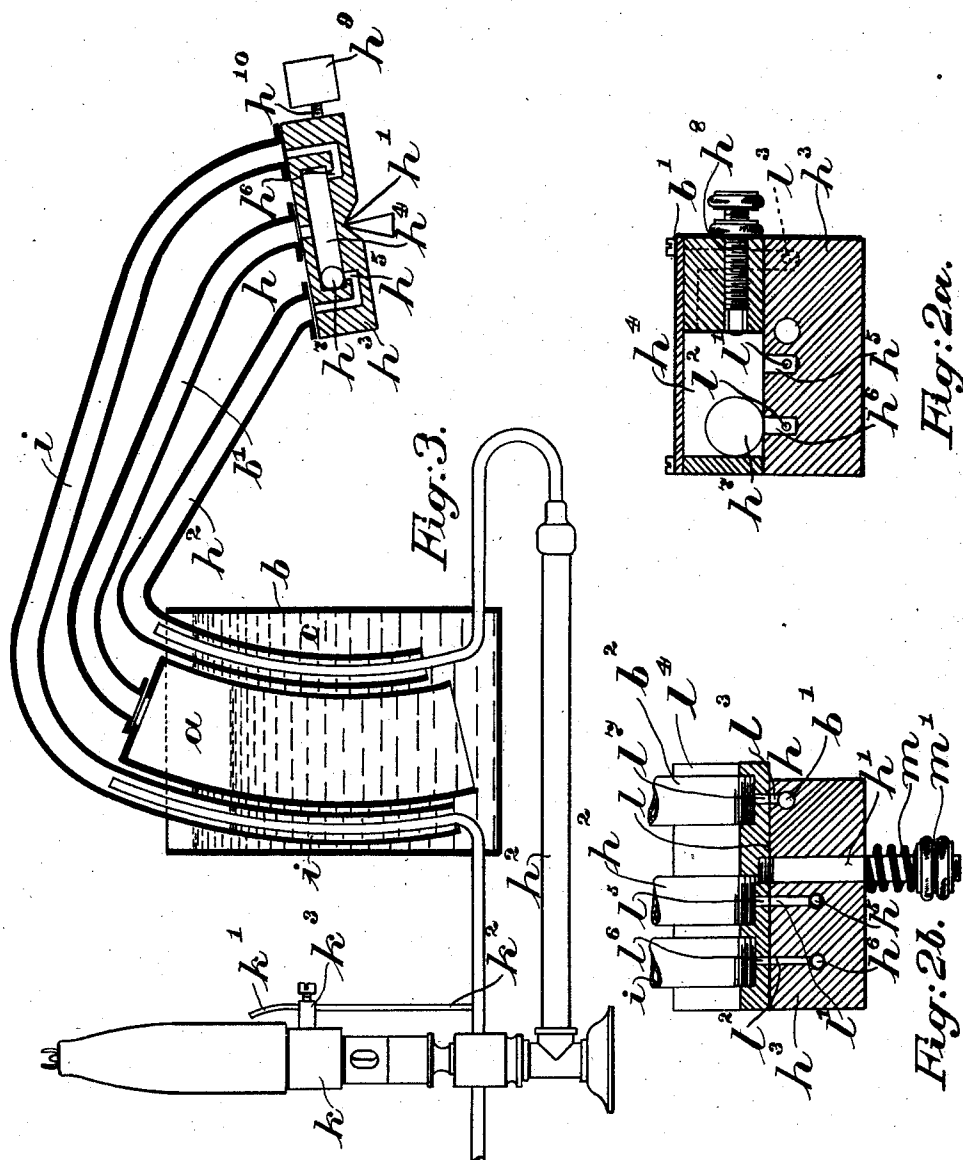
2 SHEETS--SHEET 1.



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 APPLICATION FILED FEB. 20, 1911.
 Patented Nov. 21, 1911.
 2 SHEETS—SHEET 2.

1,009,313.



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MECHANISM FOR PRODUCING GAS-LIGHTED FLASH-SIGNS AND THE LIKE FOR
ADVERTISING PURPOSES.

1,009,313.

Specification of Letters Patent. Patented Nov. 21, 1911.

Application filed February 20, 1911. Serial No. 609,746.

To all whom it may concern:

Be it known that I, THOMAS JACKSON, subject of the King of Great Britain and Ireland, residing at 7 Milton Court road, New Cross, London, S. E., England, have invented new and useful Improvements in and Relating to Mechanism for Producing Gas-Lighted Flash-Signs and the Like for Advertising Purposes, of which the following is a specification.

This invention relates to improvements in mechanism for the production of flash signs for advertising purposes and the like, by means of gas illumination, and has for its object the construction and arrangement of mechanism of a cheap and simple character, with wide range of adaptability and simple and easy of adjustment for periodic variations of flash results.

My invention consists in improvements in that type of motor mechanism which is adapted to be driven by the ordinary pressure of gas supply from the mains and having in connection therewith a control device adapted to be operated by the motor mechanism to regulate the rate of discharge of gas to the flash burner so as to get a quick turning up and down of the burner effected by the motive power of the gas supply itself.

In order that the invention may be the better understood, I will now proceed to describe the same in relation to the accompanying drawings, reference being had to the letters and figures marked thereon.

Like letters refer to like parts in the various figures.

Figure 1 is a part sectional view of my apparatus; the connecting pipes from the controlling device being of a flexible character. Fig. 2 is a part sectional view of a modified form of my apparatus, in which the use of flexible connecting pipes is avoided. Fig. 2^a shows a transverse section of the tiltable device. Fig. 2^b is a cross section of the tiltable device mounted on its fixed part showing the co-action of the ports. Fig. 2^c is a front view of the bracket *l*. Fig. 2^d is a side elevational view thereof. Fig. 3 is a further modification of the construction shown in Fig. 1; in which the use of flexible connecting pipes is also avoided.

Referring now to Fig. 1 an ordinary inverted bell *a* is adapted to float in a chamber *b*, having a water seal *c* so as to move

vertically with the smallest amount of friction in the said chamber in a known manner. Upon the side of the chamber *b* is arranged a fulcrum *d* in which pivots a double armed lever *e* one end of which is connected to the bell *a* while the other end is pivotally attached to a connecting rod *f* which in turn is attached by a joint *g* to the controlling device *h*. This controlling device *h* is situated between the main gas supply *i* and the chamber *b* and is connected thereto by a flexible pipe *b*¹. The controlling device *h* is pivoted upon an axis *h*¹ and the axis is so disposed as to allow the device *h* to be rocked past a point of unstable equilibrium by the movement of the bell *a* in its reciprocation so that the supply of gas is fed to a burner *k* through a flexible pipe *h*². A convenient form of the controlling device *h* consists of a closed chamber *h*³ provided with a channel *h*⁴ with orifices *h*⁵ and *h*⁶ at each end of the said channel, the orifice *h*⁵ being in communication with the burner *k* and the orifice *h*⁶ being in communication with the main supply *i*. In this channel a mobile element such as a ball *h*⁷ is disposed which will on the tilting of the device *h* alternately close and open the gas supply and the supply to the burner respectively on the device *h* being rocked from side to side.

Provision can be made such for example as an adjustable screw *h*⁸ whereby a small quantity of gas is allowed to pass through the device *h* to the burner *k* in order to maintain a pilot light; the said screw *h*⁸ being adapted to keep the ball *h*⁷ slightly off the seat of the orifice *h*⁵. In place of this adjustable pilot light control I may arrange an independent pilot light *k*¹ maintained by an independent supply of gas from the main through the pipe *k*² and regulated as to amount by a valve *k*³. In order to adjust the rate of operation of the apparatus and to obtain correct balancing of the parts an adjustable counter-weight *h*⁹ is carried on a stem *h*¹⁰ mounted on the device *h* and movable weights *a*¹ can be placed in position on the top of the bell *a*.

It must be understood that the pipes *i*, *h*² and *b*¹ are of a flexible character to allow of the rocking action of the device *h*. The operation of the device is as follows:— Assuming that the parts are as shown in Fig. 1, the gas coming from the supply

through the pipe i passes up through the device h and pipe b^1 into the chamber b and raises the bell a until the device h has been tilted by means of the lever e and connecting rod f into the opposite angular position when the ball h^7 runs along the channel h^4 and covers up the orifice h^6 thus cutting off the gas supply from the main.

It will thus be seen that the chamber b is in direct communication through the pipe b^1 , the orifice h^5 and the pipe h^2 with the burner k and the gas within the bell a will be forced freely to the burner k so as to produce an illuminating effect.

As the bell falls and gets near the lower end of its stroke, the device h is turned back to its original position as shown in Fig. 1 and the burner k is cut out of communication with the chamber b by the ball h^7 . The gas supply from i now passes freely to the chamber b and raises the bell a again in the manner previously described and so on so long as the supply of gas is maintained.

In Figs. 2, 2^a, and 2^b, the passage and control of the gas is effected by means of a tiltable device h having a ball h^7 rolling in a channel h^4 provided with orifices h^5 and h^6 and by pass adjusting screw h^8 ; similar in these respects to that shown in Fig. 1, but having in addition a face l adapted to contact with a fixed support l^4 . The orifices h^5 and h^6 are led to the face l at l^1 and l^2 respectively, a third port l^3 being provided, the said port l^3 being in communication with the passage b^1 . The fixed support l^4 is provided with a projecting pin h^1 adapted to pivotally carry the device h . The front face of the said bracket l^4 is provided with curved ports l^5 , l^6 , and l^7 adapted to co-act with the ports l^1 , l^2 and l^3 of the device h respectively, when the said device h is in place on the pin h^1 ; the curved ports l^5 , l^6 and l^7 are sufficiently long to permit the passage of the gas to the ports l^1 , l^2 and l^3 whatever may be the position of the tiltable device h under working conditions. In order to maintain a gas-tight joint between the faces of the device h and the fixed part l^4 a spring m and adjustment nuts m^1 are provided and

if found necessary a face of flannel or similar material covered with graphite, vaseline, or the like may be affixed to either face. The pipes h^2 , i and b^2 are in communication with the curved ports l^5 , l^6 and l^7 respectively, said pipes being of a rigid character. The operation of the device being the same as that described in relation to Fig. 1.

In Fig. 3 the flexible pipes i , h^2 and b^1 (see Fig. 1) are substituted by rigid pipes, the ends of the pipes i and h^2 being of curved formation with a radius from the pivot point h^1 , the parts of the pipes within the water seal being made telescopic but without touching one another. The bell a in this case is mounted rigidly on the pipe b^1 and describes a circular path in its movement into and out of the chamber b ; the operation of this modified construction is precisely similar to that of the apparatus shown in Fig. 1. The motor mechanism in addition to operating the gas control device can be also adapted to move the device being illuminated, for example, a transparent advertisement.

Having thus fully described my invention I claim as new and desire to secure by Letters Patent:—

A gas flash light apparatus comprising in combination, a liquid container, a movable bell within said container, a tiltable gas control device having two gas orifices at the ends of a channel, a mobile element adapted to roll by gravity in said channel and co-act with either one or other of the two gas orifices, means for mechanically coupling the bell with the tiltable device so as to rock the same, a gas burner, a source of gas supply and means for connecting the control device with the gas supply, the bell, and the burner, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

THOMAS JACKSON.

Witnesses:

RICHARD A. HOFFMANN,
CHARLES J. R. BULLOUGH.